

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. -31- (canceled).

32. (currently amended): An electronic device formed on a substrate and comprising:

a first electrode constituted by a first electrically conductive region;

a second electrode constituted by a second electrically conductive region and spaced away from the first electrode;

a layer of a semiconductor material between the first and second electrodes and in contact with the first electrically conductive region, there being an interfacial zone comprising least part of the periphery of the semiconductor material at the interface between the semiconductor material and the first electrically conductive region in which the semiconductor material is doped by a dopant integral with the first electrically conductive region so as to have a higher electrical conductivity than the interior of the semiconductor material,

wherein said interfacial zone has a thickness of at least 1nm.

33. (original): An electronic device as claimed in claim 32, wherein the semiconductor material is doped by a dopant that is an oligomer of an organic molecule comprising an acid functional group.

34. (original): An electronic device as claimed in claim 33, wherein the oligomer is an oligomer of an organic molecule containing a sulphonic acid group.

35. (previously presented): An electronic device as claimed in claim 32, wherein the dopant is a surface active dopant.

36. (original): An electronic device as claimed in claim 35, wherein the surface active dopant is a surfactant.

37. (previously presented): An electronic device as claimed in claim 32 wherein the first electrically conductive region has a roughened surface at its interface with the semiconductor material.

38. (previously presented): An electronic device as claimed in claim 32, wherein the first electrically conductive region comprises molecules of an organic semiconductor material.

39. (previously presented): An electronic device as claimed in claim 32, wherein the first electrically conductive region comprises molecules of a block copolymer having one or more electrically conductive blocks and one or more semiconducting blocks.

40. (previously presented): An electronic device as claimed in claim 32, comprising a layer of the dopant between the first electrically conductive region and the semiconductor material.

41. (previously presented): An electronic device as claimed in claim 32, wherein at least one of the first and second electrically conductive regions comprises an electrically conductive polymer.

42. (original): An electronic device as claimed in claim 41, wherein the electrically conductive polymer is PEDOT/PSS.

43. (previously presented): An electronic device as claimed in claim 32, wherein at least one of the first and second electrically conductive regions comprises a metal deposited from solution.

44. (original): An electronic device as claimed in claim 43, in which the metal is silver, gold, or copper.

45. (previously presented): An electronic device as claimed in claim 32, wherein the semiconductor material is an organic semiconductor.

46. (original): An electronic device as claimed in claim 45, wherein the semiconductor material is a conjugated polymer.

47. (previously presented): An electronic device as claimed in claim 32 wherein the semiconductor material is an inorganic semiconductor.

48. (previously presented): An electronic device as claimed in claim 47, wherein the inorganic semiconductor is silicon or cadmium selenide.
49. (previously presented): An electronic device as claimed in claim 32, wherein the ionization potential of the conjugated polymer is less than 5.8eV.
50. (previously presented): An electronic device as claimed in claim 32, wherein the electronic device is a switching device.
51. (previously presented): An electronic device as claimed in claim 32, wherein the switching device is a transistor and the electrodes are source and drain electrodes of the transistor.
52. (previously presented): An electronic device as claimed in claim 32, wherein the semiconductor material remains undoped by the dopant internally of the interfacial zone.
53. (currently amended): An electronic device as claimed in claim 32, wherein the thickness of the ~~peripheral~~ interfacial zone is between 1nm and 100nm
- 54.(currently amended):. An electronic device as claimed in claim 32, wherein the thickness of the ~~peripheral~~ interfacial zone is between 10 nm and 1 μ m.
55. (currently amended): An electronic device as claimed in claim 32 or 54, wherein the thickness of the ~~peripheral~~ interfacial zone is between 100nm and 3 μ m.
56. (currently amended): An electronic device as claimed in claim 32, wherein the concentration of the dopant in the ~~peripheral~~ interfacial zone is higher than 10^{17}cm^{-3} .